

Notice of Allowability

Application No.

10/823,326

Examiner

Stephen W. Smoot

Applicant(s)

JENSEN, DAVID G.

Art Unit

2813

pm

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application papers filed on 13 April 2004.
2. ☒ The allowed claim(s) is/are 28-46.
3. ☒ The drawings filed on 13 April 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 4-13-04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Stephen W. Smoot
Patent Examiner / AU 2813

This Office action is in response to application papers filed on 13 April 2004, including a preliminary amendment, which has been entered.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Edward S. Hotchkiss on 12 November 2004.

2. The application has been amended as follows:

In the Specification:

Replace the Title of the Invention with --Systems Employing Elevated Temperatures to Enhance Quality Control in Microelectronic Component Manufacture--;

In paragraph [0010], replace both appearances of "Figure 1" with --Figure 3-- (see preliminary amendment, page 2); and

In paragraph [0011], replace both appearances of "Figure 1" with --Figure 3-- (see preliminary amendment, page 2).

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In the Claims:

In claim 28, line 11, change "heating system" to --heating apparatus--; and

In claim 40, line 7, change "heating system" to --heating apparatus--.

3. Claims 28-46 are allowed.
4. The following is an examiner's statement of reasons for allowance:
 - Claims 28-39 are allowed because the prior art of record does not teach or suggest, in combination with the other claim limitations, a system for processing packaged microelectronic components that includes a heating apparatus adapted to heat the packaged microelectronic components to a reflow temperature of a selected solder, combined with a solder plating apparatus adapted to receive the packaged microelectronic components from the heating apparatus and to deposit the selected solder on contacts of the packaged microelectronic components, wherein at least one of the packaged microelectronic components includes at least one die; and
 - Claims 40-46 are allowed because the prior art of record does not teach or suggest, in combination with the other claim limitations, a system for processing packaged microelectronic components that includes a heating apparatus adapted to heat the packaged microelectronic components to a reflow temperature of a selected solder at a rate of at least about 5 degrees C per second, combined with a solder plating apparatus adapted to receive the packaged microelectronic

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components from the heating apparatus and to deposit the selected solder on contacts of the packaged microelectronic components after a heated packaged microelectronic component has cooled to a temperature below the reflow temperature.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bahr et al. and Mishina et al. teach solder reflow systems.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen W. Smoot whose telephone number is 571-272-1698. The examiner can normally be reached on M-F (8:00 am to 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr. can be reached on 571-272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SWS